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U. S. DEPARTMENT OF AGRICULTURE

Special Supplement (1945, No. 2)

Issued March 20, 1945

Estimates of Damage to Corn by the European Corn Borer in 1944

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It is estimated that the European corn borer in 1944 caused a loss of about \$22,700,000 to a corn crop valued at approximately \$910,800,000 grown in the northeastern part of the United States and including sizable portions of the Corn Belt as far west as central Iowa. This estimate is derived from survey data obtained in cooperation with State entomological agencies on the relative abundance of the insect in the fall of 1944 in 400 counties in 22 States out of a total of 859 counties in the country known to be infested. A considerable proportion of the infested counties not surveyed in 1944 represents territory only lightly populated by the borer and it is probable, therefore, that the estimate includes at least 90 percent of the total current loss caused by the pest in the United States. In 1943, on a somewhat comparable basis, the estimated loss to corn in the presence of a higher infestation amounted to about \$33,360,000.

The 1944 estimates were made by the same procedure used in the preparation of similar estimates in previous years, as follows: (1) Established damage indices of 3-, 5-, and 8-percent loss per borer per plant in corn for grain, canning sweet corn, and market sweet corn, respectively, were applied to populations of the insect found in each county surveyed in the fall of 1944 to obtain percentages of loss in the types of corn represented. (2) Values of the corn crop in each county were estimated, and the monetary loss caused by the borer was calculated by applying to them the estimated percentages of loss. To obtain these values, data on corn production and current market prices were taken from the 16th Agricultural Census (1940), from reports of the Bureau of Agricultural Economics and the Agricultural Marketing Administration of the U. S. Department of Agriculture, and from various State and city organizations which generously supplied information. (3) The county data were combined to show the monetary loss of corn for grain and of sweet corn, for each State and for the surveyed area as a whole.

The 1944 estimates of damage are presented in table 1. They were prepared on the basis of 15,756,199 acres of corn for grain, with an estimated crop value of \$884,937,970, and 271,855 acres of sweet corn, with an estimated crop value of \$25,906,766. The combined acreage of grain and sweet corn was 16,028,054 and the estimated crop value of both totaled \$910,844,736. The estimated total loss caused by the European corn borer to the corn crop in the area surveyed in 1944 was \$22,713,923. Of this amount 88.9 percent, or \$20,185,153 occurred in corn harvested for grain, and 11.1 percent, or \$2,528,770 in sweet corn.

Table 1.—Estimates of damage by the European corn borer to corn harvested for grain and to sweet corn in the 400 counties surveyed in 1944 of the 859 counties known to be infested.

State	Number	Corn harvested for grain			Sweet corn			Total estimated loss of crop value Dollars
		Extent of area surveyed	Estimated value of crop	Estimated loss of crop value Dollars	Extent of area surveyed	Estimated value of crop	Estimated loss of crop value Dollars	
Connecticut	5	6,523	4,38,147	32,805	2,729	785,952	106,693	139,498
Delaware	3	134,850	4,748,809	103,840	3,573	249,800	15,266	119,106
Illinois	34	3,819,016	226,292,883	8,789,972	60,994	2,568,391	254,858	9,044,830
Indiana	78	3,605,195	198,167,254	4,050,332	28,201	1,991,683	93,177	4,143,509
Iowa	40	3,041,849	187,227,196	2,203,381	6,681	260,919	3,731	2,207,112
Kentucky	17	4,29,369	17,537,619	38,419	1,215	219,120	3,401	41,820
Maine	14	4,992	297,429	1,903	8,779	980,392	10,057	11,960
Maryland	7	170,113	6,154,231	95,006	9,894	370,777	6,729	101,735
Massachusetts	4	2,217	123,443	44,603	2,872	597,376	66,399	71,002
Michigan	14	442,048	20,264,680	431,888	6,474	1,191,216	58,057	489,945
Minnesota	2	80,642	4,113,270	15,609	1,288	50,668	223	15,832
Missouri	8	280,074	11,396,256	8,977	854	150,304	58	9,035
New Hampshire	9	3,106	207,675	1,537	1,222	254,176	5,562	7,099
New Jersey	19	123,637	6,534,507	303,965	20,450	4,967,824	203,182	1,218,147
New York	20	101,080	5,335,154	108,344	27,296	3,874,216	578,316	686,660
North Carolina	3	50,001	2,041,613	229,651	392	78,400	24,763	264,414
Ohio	33	1,762,683	105,532,733	1,826,812	16,412	1,577,854	58,874	1,885,686
Pennsylvania	28	754,527	46,056,677	1,093,574	19,758	3,146,920	267,136	1,360,710
Rhode Island	2	1,435	60,734	1,778	385	80,080	8,739	12,517
Vermont	10	6,920	384,961	4,345	1,433	120,874	4,003	8,348
Virginia	18	225,534	9,379,049	382,920	1,589	317,800	13,373	396,293
Wisconsin	32	710,388	32,642,880	439,492	402,334	2,072,024	141,173	480,665
Total	400	15,756,199	884,937,970	20,185,153	271,855	25,906,766	2,523,770	22,713,923